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INTELLIGENCE BRIEF

COMPUTERS TO IMPROVE SOVIET INDUSTRIAL MANAGEMENT

DIRECTORATE OF INTELLIGENCE

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COMPUTERS TO IMPROVE SOVIET INDUSTRIAL MANAGEMENT

The announcement by V. D. Lebedev, Deputy Chairman of the USSR Sovnarkhoz, that the USSR plans to install "automated systems of production control at 119 plants and combines during 1965 and 1966" is misleading and refers not to automated process control but to Soviet intentions to modernize management techniques at the enterprise level. This is the most recent evidence of Soviet plans to use computers to mechanize the handling of plant data in order to save clerical labor and also to provide management with the information needed to improve operating efficiency. Computers at the enterprise level also offer a means of obtaining the volume of timely data required at the regional and national level when, and indeed if, the USSR is to attempt to automate a central system for economic planning and control.

1. Role of Computers at Enterprises

The USSR has embraced "computerization and automation" as one solution to the problems of the slowing rate of growth of industry and the increasing complexity of the planning process. To this end a grandiose long-range plan has been developed to establish a three-level computer network for the control of the national economy. The plan also includes more modest provisions for the immediate installation at the enterprise level of computers, an essential prerequisite to the efficient development of a nationally integrated data-handling system. Large gains in operating efficiency at the plant level can, in theory, be made by leap-frogging from present primitive and labor-intensive methods to the use of computers to process payrolls and reports on production, material consumption, and labor utilization as well as to control inventories and production schedules. The extent to which these gains may be realized, however, depends on the solution of a number of practical problems, symptoms of which have already appeared in the Soviet literature, such as excessive maintenance required by tube-type computers presently in use in the USSR, insufficient attention to the organization of a maintenance and repair system, lags in the development of peripheral equipment, and shortages of trained programmers. Moreover, Soviet managers have traditionally been reluctant to abandon old methods even when new equipment has been made available.

These possibilities are illustrated by the findings of the Collegium of the USSR Sovnarkhoz, which met on 26 August 1964 to discuss the problem of the introduction of computing equipment and quantitative economic methods in industrial control. This body concluded that major

attention should be given to "the comprehensive mechanization of engineering and administrative labor, including engineering and design calculations, norm setting, planning, material and technical supply, economic information, accounting, and analysis of production activity, etc." In this context the decision to install computers at 119 plants and combines seems a logical development. Moreover, it is clear from this statement and other Soviet pronouncements that these computers are intended for the solution of management problems and are not to be used directly in controlling manufacturing processes.

Computers installed at the enterprise level for a fairly modest outlay in equipment and personnel have the capability to feed into regional and national economic planning and control channels the type of accurate, comprehensive, and timely data required for the carrying out of long-range plans to integrate more fully the operation of the economy as a whole.

2. Extent of Program to Computerize Industry

Although the installation of computers at 119 enterprises appears to be a major undertaking, many of the firms included in this number either already have computers installed for administration and engineering tasks or have been planning to install them for some time. For example, the Moscow Motor Vehicle Plant, the Gor'kiy Motor Vehicle Plant, and the Leningrad Metallurgical Plant already have computer installations, and the Yaroslavl' Diesel Engine Plant has been scheduled to receive a computer since 1962. Thus a reasonable interpretation of the Lebedev announcement might be that by 1966, 119 enterprises in the USSR will have computers to assist "production control operations." It is estimated that at present about 40 enterprises have computers installed, and about 45 more will receive computers shortly. Thus only 30 to 35 enterprises out of the total of 119 would be newly scheduled to install computers in the next year and a half. The addition of 30 to 35 new installations, however, will represent a substantial increase in the number of major enterprises that are equipped with computers.

3. Shortage of Computers

Before 1963, computers were used on only a limited scale in industrial enterprises. Perhaps the primary reason for the slowness in introducing computing equipment into industry has been the extreme shortage of computers and the low priority accorded to commercial applications. In 1960, only 5 of the estimated 285 digital computers produced in the USSR were installed in industrial enterprises. The 40 computers that Soviet enterprises were operating in 1964 is a very low number when compared with the more than 5,000 digital computers now operating in US industrial establishments.

Sources:

1. Bakinski rabochiy, Baku, 13 Mar 65. U.
2. FDD. No 5974, Cybernetics Research and Development in the Soviet Bloc (19), 5 Oct 64, p. 24-25. C.
3. Control Engineering Magazine, Apr 65. U.

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[REDACTED]

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